SITE: Brown's Dump
BREAK: 17.7
OTHER:

To: File

From: Susan Bland
Biological Scientist IV

Date: March 16, 2002

Subject: 5th and Cleveland
Duval County
Jacksonville, Florida

Joe Alfano, Remedial Project Manager with EPA called me this week and asked if the lead results from their vegetable testing at this site was a problem. The highest concentration found was 0.28 mg/kg in collard and mustard greens. Using average consumption rates of these two types of vegetables, I calculated a dose to determine if this concentration is likely to cause illness in children and/or adults.

Average Consumption for Collard Greens = 0.0189 Grams/kg Body Weight-Day*

Average Consumption for Mustard Greens = 0.0145 Grams/kg Body Weight-Day*

Average consumption rates are based on mean per capita intake rates (as consumed) for vegetables based on all sex/age/demographic subgroups. The calculated dose is 0.00008 mg/kg/day for a child weighing 15 kg using the above intake rates (average consumption) for collard greens and mustard greens with a lead concentration of 0.28 mg/kg. After comparing the calculated dose to ATSDR's MRLs in the July 1999 Toxicological Profile, eating these vegetables with a lead concentration of 0.28 mg/kg in collards or mustard greens is unlikely to cause illness in children or adults.

Joe Alfano later informed me the vegetable lead results were reported as "wet weight". Even when I converted the consumed intake rates to "dry weight" for cooked and not cooked collards, the calculated doses are unlikely to cause illness in children or adults.

*Source: EPA Exposure Factors Handbook Volume II - Food Ingestion Factors, Office of Research and Development, Washington, D.C., August 1997.

I called EPA's Office of Research and Development to see if there is an updated copy of this reference for food ingestion factors. Jackie Moya said the July 1997 book is the most recent. An updated copy will be available in a few months including fruit, vegetable and fish survey information after 1995.

SAB